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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/925,583	08/09/2001	Vivek Kashyap	AUS920010470US1	2957

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EXAMINER

HAILE, FEBEN

ART UNIT PAPER NUMBER

2616

DATE MAILED: 05/17/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.		Applicant(s)	
	09/925,583		KASHYAP ET AL.	
	Examiner		Art Unit	
	Feben M. Haile		2616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 4, 8, 12, 16 and 18 is/are allowed.
- 6) ☒ Claim(s) 1, 3, 5-7, 9, 11, 13-15, 17, and 19-20 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date ____ | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Response to Amendment

1. In view of applicant's amendment filed February 28, 2006, the status of the application is still pending with respect to claims 1-20.
2. The amendment under filed is insufficient to overcome the rejection of claims 1, 3, 5-7, 9, 11, 13-15, 17, 19, and 20 as set forth in the last Office action because: the material added to the claims fail to further clarify a distinction between the Applicants invention and the cited reference, thus the subject matter is not patentable.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1, 3, 9, 11, 17, and 20 are rejected under 35 U.S.C. 102(e) as being anticipated by Avery (US 6,611,883).

Regarding claims 1, 9, 17, Avery discloses compiling a queue-pair-number map, wherein the map associates unique queue pair numbers with services hosted by network nodes (column 9 lines 46-56; in an address map, a particular work queue entry is identified by a queue pair pointer); receiving a service request from a client (column 2 lines 40-51; host and I/O devices have work queues that send and

Art Unit: 2616

receive instructions that specify a process); looking up the queue pair number associated to the requested service (column 11 lines 4-14; requests are processed using the queue entries); and replying to the client wherein the reply includes: the address of the node hosting the requested service; and the queue pair number associated with the requested service (column 11 lines 17-32; when a response is received, the process updates the address), and registering the network nodes with a central server, wherein the central server contains the queue-pair number map (column 3 lines 20-21 and column 8 lines 49-58; host devices are connected to various peripherals by means of a PCI bridge, which contain work queue entries).

Regarding claims 3, 11, and 20, Avery discloses compiling a queue-pair number map, wherein the map associates unique queue pair numbers with services hosted by network nodes (column 9 lines 46-56; in an address map, a particular work queue entry is identified by a queue pair pointer); receiving a service request from a client (column 2 lines 40-51; host and I/O devices have work queues that send and receive instructions that specify a process); looking up the queue pair number associated to the requested service (column 11 lines 4-14; these requests are processed using the queue entries); and replying to the client wherein the reply includes: the address of the node hosting the requested service; and the queue pair number associated with the requested service (column 11 lines 17-32; when a response is received, the process updates the address); and initiating the network nodes with the queue-pair number map (figure 6A step 602 and column 8 lines 49-58; work queue entries are initialized and stored on a PCI bridge).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 5-7, 13-15, and 19 rejected under 35 U.S.C. 103(a) as being unpatentable over Avery (US 6,611,883), hereinafter referred to as Avery in view of DeJager et al. (US 6,473,424), hereinafter referred to as DeJager.

Regarding claims 5-7, 13-15, and 19, Avery discloses associating a service hosted by the node with a well-known queue pair number (**column 9 lines 46-56; in an address map, a particular work queue entry is identified by a queue pair pointer**); receiving a service request from a client, wherein the request is addressed to the well known queue pair number (**column 2 lines 40-51; a host and I/O devices have work queues that send and receive instructions that specify a process**); and replying to the client wherein the reply contains attributes necessary for communication with the requested service (**column 11 lines 17-32; when a response is received, the process updates the address**).

Avery fails to teach wherein the well-known queue pair number corresponds to at least one well-known port in the node.

DeJager discloses a switch with a plurality of ports, where each port is associated with a pair of queue marks (**column 9 lines 47-48**).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Avery to incorporate the teachings of DeJager. The motivation being an improved method and system for balancing the load of data transmissions through a port aggregation.

Regarding claims 6 and 14, DeJager discloses wherein the well-known queue pair number corresponds to all well-known ports in the node (**column 9 lines 47-48; the plurality of ports in the switch are each associated with a pair of queue marks**).

Regarding claims 7 and 15, DeJager discloses wherein the well-known queue pair number corresponds to well-known ports which are specified as the least used well-known ports in the node (**column 3 lines 33-35; the switch includes a mechanism for determining a least utilized queue; it would have been obvious that if a queue is determined to be the least utilized then so would its associated port**).

Allowable Subject Matter

5. Claims 4, 8, 12, 16, and 18 allowed.

Response to Arguments

6. Applicant's arguments filed have been fully considered but they are not persuasive.

The Applicant respectfully traverses the rejection of claims 1, 3, 9, 11, 17 and 20 under 35 USC § 102 on page 9 of the amendment. Specifically the Applicant argues that the cited reference does not teach the steps of receiving a service request from a client and looking up the queue pair number associated to the requested service. The Examiner respectfully disagrees with the Applicant. Avery discloses a host channel

Art Unit: 2616

adapter and a target channel adapter, where each have their own set of send and receive queues (**figure 3**). The host channel adapter interprets work queue entries and generates instructions and the target channel adapter receives the instructions and uses the work queue entries to execute an operation (**column 6 lines 48-66**).

The Applicant respectfully traverses the rejections of claims 5-7, 13-15, and 19 under 35 USC § 103 on page 10 of the amendment. Specifically the Applicant argues that the cited reference does not teach inter-node replies, which contain attributes necessary for communication with a requested service at a remote node. The Examiner respectfully disagrees with the Applicant. Avery discloses a target channel adapter receiving instructions from a source channel adapter, executing an operation, and sending an acknowledgment message back to the source channel adapter (**column 6 lines 48-66**). It is inherent that in order for the message to be transmitted to the source channel adapter it would need an address. It is obvious to one of ordinary skill in the art that the acknowledgment message could also include the particular instruction, where each instruction was generated with respect to work queue entries, that was executed.

Conclusion

7. THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Feben M. Haile whose telephone number is (571) 272-3072. The examiner can normally be reached on 6:00am - 3:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ricky Ngo can be reached on (571) 272-3139. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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RICKY Q. NGO
SUPERVISORY PATENT EXAMINER